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TITLE: Method and apparatus for
prestoring dequantization
information for DCT VLC
decoding

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INVENTOR-INFORMATION:

NAME	STATE	ZIP CODE	COUNTRY	CITY
Strongin; Geoffrey				Austin
	TX	N/A	N/A	
Liu; Yi				Austin
	TX	N/A	N/A	
Tucker; Michael				Austin
	TX	N/A	N/A	

US-CL-CURRENT: 382/233, 375/240.23 , 382/245 ,
382/246 , 382/250

ABSTRACT:

A DCT VLC decoding method substantially lessens the computational burden of picture dequantization. The method of decoding variable length code (VLC) data includes the step of receiving a bitstream sequence organized into a hierarchy of levels including, in order, a sequence layer, a group of pictures layer, a picture layer, a slice layer, a macroblock layer,

and a block layer. In the sequence layer, the method defines a quantization matrix. In a macroblock layer, the method defines a quantizer scale parameter in the macroblock layer, multiplies the quantization matrix times the quantizer scale parameter and stores the product in a quantization multiplication factor. In the block layer, the method parses an encoded data bitstream to detect a VLC code in the block layer and dequantizes the VLC code by multiplying the VLC code times the quantization multiplication factor.

6 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

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Detailed Description Text - DETX (37):

In a second embodiment, when the quantization multiplication factor is set at the macroblock level, it is stored directly into the execution code at a location which was identified when the execution code was compiled. In this "self-modifying code" embodiment, the stored quantization multiplication factor is retrieved during parsing of the bitstream in a single instruction, as follows:

Current US Original Classification - CCOR (1):